Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1826.

OCT 30 1939

Received at London Office

Date of writing Report 20th Oct, 1939. When handed in at Local Office 24th Oct, 1939. Port of Helsingborg & Malmö.

No. in Reg. Book Suppl. 39655 on the Single / ~~Twin~~ / ~~Triple~~ / ~~Quadruple~~ Screw vessel "JANUS"

Survey held at Landskrona. Date, First Survey 2nd Dec, 1938. Last Survey 16th Oct, 1939. Number of Visits 38.

Tons Gross 9965 Net 5931

Built at Landskrona. By whom built Öresundsvarvet A.-B. Yard No. 54. When built 1939.

Engines made at Göteborg. By whom made A.-B. Götaverken. Engine No. 1339. When made 1939.

Donkey Boilers made at Stockton. By whom made Stockton C. & E. Riley Boilers Ltd. Boiler No. 6338/9. When made 1939.

Brake Horse Power 4200. Owners Rederi A.-B. Nordstjernan. Port belonging to Stockholm.

Nom. Horse Power as per Rule 653. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended ✓

OIL ENGINES, &c.—Type of Engines ... 2 or 4 stroke cycle ... Single or double acting ...

Maximum pressure in cylinders ... Diameter of cylinders ... Length of stroke ... No. of cylinders ... No. of cranks ...

Mean Indicated Pressure ...

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge ... Is there a bearing between each crank ...

Revolutions per minute ... Flywheel dia. ... Weight ... Means of ignition ... Kind of fuel used ...

Crank Shaft, dia. of journals as per Rule ... as fitted ... Crank pin dia. ... Crank Webs Mid. length breadth ... Mid. length thickness ... shrunk Thickness parallel to axis ... Thickness around eyehole ...

Flywheel Shaft, diameter as per Rule ... as fitted ... **Intermediate Shafts,** diameter as ~~per Rule~~ appr. 355 mm. as fitted 355 mm. **Thrust Shaft,** diameter at collars as per Rule ... as fitted ...

Tube Shaft, diameter as per Rule ... as fitted ... **Screw Shaft,** diameter as ~~per Rule~~ appr. 396 mm. as fitted 396 mm. Is the ~~tube~~ / screw shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as ~~per Rule~~ appr. 20 mm. as fitted 20 mm. Thickness between bushes as ~~per Rule~~ appr. 20 mm. as fitted 20 mm. Is the after end of the liner made watertight in the propeller boss Yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓

If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved **Oil Gland** or other appliance fitted at the after end of the tube shaft No. If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 1720 mm.

Propeller, dia. 5100 mm. Pitch 3060-3825 mm. No. of blades 4 Material Bronze whether Moveable No. Total Developed Surface 97.6 sq. feet

Method of reversing Engines ... Is a governor or other arrangement fitted to prevent racing of the engine when declutched ... Means of lubrication ...

Thickness of cylinder liners ... Are the cylinders fitted with safety valves ... Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led to the funnel.

Cooling Water Pumps, No. 2. Each of 200 m³/H. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.

Bilge Pumps worked from the **Main Engines,** No. None. Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Pumps connected to the **Main Bilge Line** No. and Size 3. 1 of 190 m³/H. 1 of 100 m³/H & 1 of 20 m³/H. In main pump room. 1 of 53 m³/H. In pump room forward. 1 of 30 m³/H. How driven Steam driven. Steam driven. Steam driven.

Is the cooling water led to the bilges No. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓

Ballast Pumps, No. and size One of 100 m³/H. **Power Driven Lubricating Oil Pumps,** including Spare Pump, No. and size 2. each of 100 m³/H.

Are two independent means arranged for circulating water through the **Oil Cooler** Yes. **Suctions,** connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 5-3½". 1-3½" in after cofferdam. In main pump room 3-3". In Pump Room fwd. 1-2½". In Holds, &c. 2-3" in dry cargo hold. 1-4" in fwd. cofferdam.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5". 1-3".

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes. Are the Bilge Suctions in the Machinery Spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes.

Are all **Sea Connections** fitted direct on the skin of the ship Yes. Are they fitted with Valves or Cocks Both Yes, or by lifting special covers.

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ... Are the Overboard Discharges above or below the deep water line Above.

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes.

What pipes pass through the bunkers ✓ How are they protected ✓

What pipes pass through the deep tanks Suction pipe from fore peak tank. Have they been tested as per Rule Yes.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight No tunnel Is it fitted with a watertight door ✓ worked from ✓

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

Main Air Compressors, No. None. No. of stages ✓ Diameters ✓ Stroke 320-280 mm. 150 mm. Driven by ✓ steam engine.

Auxiliary Air Compressors, No. 2. No. of stages 2. Diameters 232-90 mm. Stroke 220 mm. Driven by Aux. oil engine.

Small Auxiliary Air Compressors, No. 1 ✓ No. of stages 2. ~~Diameters~~ Size: 1.5 m³/H. Stroke ✓ Driven by Aux. generator steam engine.

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule ... as fitted ... No. ... Position ...

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AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule: Yes

Can the internal surfaces of the receivers be examined and cleaned: Yes — Is a drain fitted at the lowest part of each receiver: Yes

~~High Pressure~~ Small start Air Receivers, No. 1 — Cubic capacity of each: 150 litres — Internal diameter: 302 mm. — thickness: 8 mm.

Seamless, lap welded or riveted longitudinal joint: Seamless — Material: Steel — Range of tensile strength: 45.4 kg. mm² — Working pressure by Rules: 47.1 kg. cm — Actual: 25 kg. cm

Starting Air Receivers, No. — Total cubic capacity — Internal diameter — thickness

Seamless, lap welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure by Rules — Actual

IS A DONKEY BOILER FITTED? Yes — If so, is a report now forwarded? Yes

Is the donkey boiler intended to be used for domestic purposes only: No

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval): 5-7-1938 — Receivers: 27-5-1938 — Separate Fuel Tanks: 7-9-1938.

Donkey Boilers — General Pumping Arrangements: 15-7-1938 — Pumping Arrangements in Machinery Space: 15-7-1938.

Oil Fuel Burning Arrangements: 27-2-1939.

SPARE GEAR.

Has the spare gear required by the Rules been supplied: Yes.

State the principal additional spare gear supplied: (See Gothenburg Surveyors' Report No. 12419).

Additional pumps. In motor space:-

1 sanitary pump of 30 m³/H. — Steam driven.
1 rotary oil fuel transfer pump of 30 m³/H. — Electric driven.
1 " " " " " " 20 m³/H. — Steam driven.
1 fresh water pump of 3 m³/H. — Electric driven.

(Cont. on sheet II)

The foregoing is a correct description,

ÖRESUNDSVARVET AKTIEBOLAG — C.A. Ridell — Manufacturer.

Dates of Survey while building:
- During progress of work in shops: 2/12-1938. 13/1. 17/1. 6/2. 23/2. 24/5. 5/6. 5/6. 16/6. 19/6. 15/8. 1/9. 2/9-1939.
- During erection on board vessel: 17/7. 18/7. 26/7. 31/7. 2/8. 7/8. 9/8. 16/8. 21/8. 28/8. 31/8. 5/9. 8/9. 8/9. 12/9. 15/9. 20/9. 26/9. 28/9. 30/9. 4/10. 6/10. 11/10. 13/10. 16/10-1939.
- Total No. of visits: 38.

Dates of Examination of principal parts—Cylinders — Covers — Pistons — Rods — Connecting rods

Crank shaft — Flywheel shaft — Thrust shaft — Intermediate shafts: 3-3-1939 — Tube shaft: ✓

Screw shaft: 3-3-1939 — Propeller: 18-4-1939 — Stern tube: 3-1 & 24-5-1939 — Engine seatings: 16-6-1939 — Engines holding down bolts: 2-8-1939.

Completion of fitting sea connections: 19-6-1939. — Completion of pumping arrangements: 11-10-1939 — Engines tried under working conditions: 16-10-1939.

Crank shaft, Material — Identification Mark — Flywheel shaft, Material — Identification Mark

Thrust shaft, Material — Identification Mark — Intermediate shafts, Material: Steel — Identification Marks: LLOYD'S 1280. TW 3-3-39

~~Tube~~ SPARE SCREW shaft, Material: Steel — Identification Mark: LLOYD'S 1281. TW 3-3-39. — Screw shaft, Material: Steel — Identification Mark: LLOYD'S 1282. TW 3-3-39

Is the flash point of the oil to be used over 150° F.: Yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with: Yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo: Tanker — If so, have the requirements of the Rules been complied with: ✓

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with: No

Is this machinery duplicate of a previous case: No — If so, state name of vessel: ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The aux. power machinery of this vessel consists of one 3-cyl. 4 stroke single acting compressorless heavy oil engine built by A.B. Götaverken, Gothenburg (See Gothenburg report No. 12419) & a compound steam engine built by E. Reader & Sons Ld, Sheffield. (See Sheffield special certificate No. C 6460). Each engine is driving a dynamo of 75 K.W., 110 V., 682 A. A steam driven dynamo of 20 K.W., 110 V. 182 A. is also installed.

These main and aux. oil engine and aux. compressors have been built under special survey as per Gothenburg report No. 12419 and have been installed onboard under our supervision and to our satisfaction. The main and aux. engines, compressors and pumps have been tested under full working conditions and found to work satisfactory.

The machinery of this vessel is eligible, in our opinion, to be classed in the Register Book of this Society, viz.- ✠ LMC 10.39.

Working pressure of donkey boilers 150 lbs. per sq. inch.

Certificate (~~if required~~) to be sent to "Surveyors' Office, Malmö."

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee	Hbg £ Kr. 114:00	When applied for, 24th Oct. 1939
Special (1/3)	" £ Kr. 681:78	
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any)	£ : :	10/11/1939

A. Börring — Engineer Surveyors to Lloyd's Register of Shipping.

BJ 11/11

(Part of this survey has been carried out by Mr. Sjögren

FRL 8 NOV 1939

Committee's Minute: oil Lq.

Assigned: + Lmb. 10-39 — 2 DB. -150 lb — C

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Rpt. 9a.

Port of Helsingborg & Malmö — Continuation of 1st Report No. 1826 dated 24th Oct, 1939 on the

M/T "JANUS", No. 39655 in the Register Book supplement.

1 salt water pump of 3 m³/H. — Electric driven.
2 units of oil fuel pressure pumps for donkey boilers. — Steam driven.
3 feed pumps for donkey boilers, 2 of 20 m³/H & 1 of 18 m³/H. — " "

In main pump room:-

2 cargo oil pumps of 390 m³/H. — Steam driven.

In forward pump room:-

1 ballast pump of 30 m³/H. — Steam driven.

A. Börring.

5m.1.33.

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